Good Practices for Family Poultry Production

Sustainable Control of Newcastle Disease in Village Poultry

by

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Country: Australia and Mozambique
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The purpose of the International Network for Family Poultry Development (INFPD) is to share information about poultry production among scientists, researchers, policy makers, educationists, students and development workers and to promote the cause of family poultry production.

Good Practices of Family Poultry Production (GPFPP) are "practices that address environmental, economic and social sustainability for on-farm processes, and result in safe and quality food and non-food agricultural products" (FAO COAG 2003 GAP paper). Sharing information about “Good Practices for Family Poultry Production” that are successfully implemented in countries, regions or development projects is an important objective of the INFPD so that these practices can be replicated in different region based on the farmers’ demand.

Dr. Md. A. Saleque, the coordinator of the FAO/IFAD/INFPD project “Support for Smallholder Poultry Development” formulated guidelines for the documentation of GPFPP based on experience for the documentation of good practices by other institutions, including the South Asia Pro Poor Livestock Policy Programme (SA PPLPP). Special thanks are due to Dr. Fallou Gueye (FAO), Dr. Olaf Thieme (FAO), Professor Dr. E. B Sonaiya (Obafemi Awolowo University, Nigeria), Dr. Robyn Alders (Kyeema Foundation) and Mr. Antonio Rota (IFAD) for their continuous efforts to finalize the guidelines. The INFPD encourages all members to collect and document GPFPP and to make knowledge of them available to a wide audience.

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1. Introduction

Rural poultry production is recognized as an important activity in all developing countries. They are generally owned and managed by women and children (Guèye 2000; Spradbrow 1993–94). Although the output of traditional village chickens in terms of weight gain and number of eggs per hen per year is low, it is obtained with minimum input in terms of housing, disease control, management and supplementary feeding. There are many constraints to village chicken production (Sonaiya et al. 1999) including a range of bacterial and other viral diseases, internal and external parasites (Permin and Hansen 1998), poor nutrition and predation. The major constraint to production of village chickens in many developing countries is Newcastle disease (ND) (Alexander 1991, Spradbrow 1988). In these countries, circulating strains of ND virus are capable of causing 100% mortality in unprotected flocks. Outbreaks of ND are unpredictable and discourage villagers from paying proper attention to the husbandry and welfare of their chickens. However, in areas where ND is endemic, ND control through vaccination is generally a very cost-effective intervention and given a high priority by farmers.

Besides these, a comprehensive and sustainable Newcastle disease (ND) control program requires a multi-faceted approach that is adapted to local conditions. The table on the following pages provides an overview of the components of a sustainable ND control program, the inputs required and references that provide information on good practices associated with each component.

2. Use of thermotolerant ND vaccines in rural poultry

Experience gained during the implementation of ND control activities involving thermotolerant ND vaccines has shown that a sustainable program is composed of five essential elements:

1. An appropriate vaccine, vaccine technology and vaccine distribution mechanisms;
2. Effective extension materials and methodologies that target veterinary and extension staff as well as community vaccinators and farmers;
3. Simple evaluation and monitoring systems of both technical and socio-economic indicators;
4. Economic sustainability based on the commercialization of the vaccine and vaccination services and the marketing of surplus chickens and eggs; and
5. Support and coordination by relevant government agencies for the promotion and implementation of vaccination programs (Copland and Alders, 2005).
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| Identification and procurement of appropriate vaccine   | Risk assessment  
Information and training  
## Sustainable Control of Newcastle Disease in Village Poultry

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<td>Gender sensitive monitoring and evaluation of the ND control program</td>
<td>ND control data and analysis Vaccine quality control No. of vaccine doses distributed No. of vaccines doses administered ND surveillance data and poultry mortality Household and</td>
<td>Bagnol, B. 2007. Participatory tools for assessment and monitoring of poultry raising activities and animal disease control. FAO HPAI Communication Workshop 22 January 2007, Bangkok: FAO. <a href="http://www.participatoryepidemiology.info/userfiles/Participatory%20Tools_9_03_08.pdf">http://www.participatoryepidemiology.info/userfiles/Participatory%20Tools_9_03_08.pdf</a></td>
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3. Why has this good practice worked?

The good practice has worked because the key in-country stakeholders (from Ministries of Agriculture to animal health technicians to male and female farmers) have recognised ND as a serious constraint to village poultry production and have been involved in the implementation of the program from the beginning. The model was developed over 10 years and so provided time to learn lessons along the way while evaluating the robustness of the approach. Particular attention was paid to capacity building of all key actors and to involving them in the monitoring and evaluation process. The importance of setting up cost-recovery mechanisms that ensure that the vaccine production laboratory or importing institution always has funds to supply the vaccine at key times during the year has been found to be a key element of success. Significant attention was also paid to training in the conservation and transport of the thermotolerant vaccine as it is important for distributors and users to understand the thermal limits of the biological product. For the thermotolerant ND vaccine to deliver optimal results, it is important that the recommended storage temperatures and shelf-life be observed and that freeze-thaw cycles are avoided.

4. Scope of replication and sustainability

Key recommendations to support technically sound and sustainable ND control programs in village chickens include:

- Veterinary pharmaceutical companies should be encouraged to develop and observe a code of conduct that supports the supply of appropriate vaccine with an adequate shelf life, instructions in local languages, the use of temperature indicators in the vaccine containers and discourages the payment of commission on the purchase of vaccine;
- Quality assurance activities should be built into all vaccination programs to improve cost-efficiency. These activities should include post-vaccination serological monitoring on a representative sample of birds especially when a new vaccine or new disease control program is introduced;
- Participation of farmers (male and female) in the monitoring and evaluation of the effectiveness of vaccination campaigns; and
- Active collaboration with the Ministries of Agriculture, Health and Education in village poultry improvement programs (Alders et al. 2010).

5. Conclusion and lessons learnt

The implementation of effective ND control programs in village poultry in Asia, Africa and Latin America has resulted in increased poultry numbers, increased household purchasing power, increased home consumption of
poultry products and increased decision-making power for women. The use of participatory methodologies and robust attention to quality assurance activities has been critical to the success of these programs.

**Additional Bibliography**


